



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,067	02/20/2002	David Golman King	2001-0082	5109

7590 10/14/2005

Elizabeth C. Jacobs, Esq.  
Lexmark International, Inc.  
Building 82-1, Dept. 865A  
740 W New Circle Road  
Lexington, KY 40550

EXAMINER

NGUYEN, LAM S

ART UNIT PAPER NUMBER

2853

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/079,067	KING ET AL.	
	Examiner	Art Unit	
	LAM S. NGUYEN	2853	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-14 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>06/14/2002</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Drawings***

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because FIG.1-3 are informal. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1, 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims include the phrase “and/or” that renders the claim indefinite because the claim does not clearly set forth the metes and bounds of the claimed invention, thereby rendering the scope of the claim unascertainable.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

Art Unit: 2853

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 7-9, 11-14, 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Ikeda (US 6607260). *(Note: The rejection of claim 1 is made with assumption that the "and/or" error has been corrected)*

**Referring to claims 1, 11:**

Ikeda discloses a method for determining a printhead misalignment of a printer comprising the steps of:

a) printing a printhead alignment test pattern including a plurality of spaced-apart printed images at least partially aligned substantially along an axis or a printhead scan axis (*FIG. 6, elements b-V, c-V, d-V: These images are aligned along the scan printhead axis orthogonal to the sub-scanning direction as shown FIG. 1*), wherein each image includes leading and trailing edge portions having respective image-outermost leading and trailing edges spaced apart along the axis (*FIG. 6, elements b-V, c-V, d-V: The dark leftmost and rightmost portions of each image*) and includes an intervening portion disposed between the leading and trailing edge portions (*FIG. 6, elements b-V, c-V, d-V: The empty portions between the rightmost and leftmost portions*), and wherein the leading and trailing edge portions have a higher print density than the intervening portion (*FIG. 6, elements b-V, c-V, d-V: The dark rightmost and leftmost portions having density higher than the one of the empty portions*);

b) moving a sensor along the printhead scan axis over the plurality of images;

c) obtaining data from the sensor (*FIG. 1, element 106: The sensor moves with the printhead 101*);

d) determining the locations along the printhead scan axis of the leading

Art Unit: 2853

and/or trailing edges of the plurality of images using the data (*FIG. 7: The EDGE DETECTION CIRCUIT detects the location of the edges*); and

e) calculating the printhead misalignment from the determined locations of the leading and/or trailing edges of the plurality of images (*FIG. 7: IMAGE POSITION ERROR CALCULATING MEANS*).

**Referring to claims 2, 12:** wherein the leading and trailing edge portions of one of the images have a substantially uniform and substantially identical print density (*FIG. 6, elements b-V, c-V, d-V*).

**Referring to claims 3, 13:** wherein the intervening portion of the one image has a substantially uniform print density (*FIG. 6, elements b-V, c-V, d-V*).

**Referring to claims 4, 14:** wherein the intervening portion of the one image extends along the axis to the leading and trailing edge portions (*FIG. 6, element b-V*).

**Referring to claims 7, 17:** wherein each image has a width measured along the axis, and wherein each of the leading and trailing edge portions of one of the images extends in the range of substantially 5% to substantially 20 % of the width of the one image measured along the axis (*FIG. 6, element d-V*).

**Referring to claims 8, 18:** wherein each of the leading and trailing edge portions of the one image extends substantially 10% of the width of the one image measured along the axis (*FIG. 6, element d-V*).

**Referring to claim 9:** wherein the sensor is disposed to sense a spot size on each

Art Unit: 2853

of the images, and wherein step a) prints each image with the leading and trailing edge portions thereof each extending in the range of substantially 10% to substantially 50% of the extent of the spot size measured along the printhead scan axis (*FIG. 6, element c-V, d-V*)

**Referring to claim 19:** wherein the images are substantially identical block images (*FIG. 6*).

***Allowable Subject Matter***

Claim 10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claim 20 is allowed.

Claims 5-6 and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Referring to claims 5, 10, 15, 20:** The primary reasons for the indication of the allowability of the claims is the inclusions therein, in combination as currently claimed, of the limitation that wherein each of the leading and trailing edge portions of one of the images has a print density in the range of substantially 75% to substantially 100% and the intervening portion of the one image has a print density in the range of substantially 25% to substantially 50% is neither disclosed nor taught by the cited prior art of record, alone or in combination.

Claims 6 and 16 are allowed because they depend directly/indirectly on claim 5 or 15.

**CONTACT INFORMATION**

Art Unit: 2853

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S. NGUYEN whose telephone number is (571)272-2151.

The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN  
10/08/2005



HAI PHAM  
PRIMARY EXAMINER